1 Obtenga las ecuaciones cartesianas y paramétricas de las siguientes gráficas bidimensionales

Cartesianas

(A) $y = mx + b \rightarrow y = mx + 4 \quad b = 4$

$y = \boxed{2x + 4} \qquad m = \frac{4}{2}$

Paramétricas

A) $y = 2x + 4 \rightarrow 2x - y + 4 = 0$

$Ax + By + C = 0 \rightarrow$ v.d. $(-B, A)$

$B = -1$

$2x - y + 4 = 0 \rightarrow$ V.d. $(1, 2)$ $A = 2$

$x = 0$

$2(0) - y + 4 = 0$

$0 - y + 4 = 0$

$x = 4 \ (0, 4)$

$(0, 4) + T(1, 2)$

$(0, 4) + (T, 2t)$

$(T, 4 + 2t)$

$\boxed{\begin{array}{l} x = t \\ y = 4 + 2t \end{array}}$

Cartesiana

B) $y = mx + b \rightarrow y = mx + 9 \quad b = 9$

$y = 2x + 9 \qquad m = -2 = \frac{-9}{2}$

Parametricas

$x = -2x + 9 \rightarrow -2x - 2 + 9 = 0$

$-2x - y + 9 = 0 \rightarrow x + (1, -2) t$

$x = 0$

$-2(0) - y + 9 = 0$

$y = 9 \quad (0, 9)$

$(0, 9) + T(1, -2)$

$(T, 9 - 2t$

$x = T$

$y = 9 - 2t$

Cartesiana

c) $y = mx + b \rightarrow y = mx - 4$

$b = -4$

$m = 2$

$\boxed{y = 2x - 4}$

Paramétrica

$2x - 4 \rightarrow y = 2x - 4 \rightarrow 2x - y - 4 = 0$

$vd\ (1, 2)$

$x = 0$

$2(0) - y - 4 = 0$

$y = -4 \quad (0, -4)$

$(0, -4) + T(1, 2)$

$(T, -4 + 2T)$

$\therefore x = T$

$y = -4 + 2T$

d)

Cartesiana

$x = mx + b \rightarrow y = mx + 2$

$b = 2$

$m = \frac{3}{4}$

$\boxed{y = \frac{3}{4}x + 2}$

Paramétrica

$\frac{3}{4}x + 2 = y \rightarrow -\frac{3x}{4} - y + 2 = 0$

$vd\ (1, \frac{3}{2})$

$x = 0$

$2(0) + 2 = y$

$y = 2 \quad (0, 2)$

$(0, 2) + T(1, \frac{3}{2})$

$(0, 2) + (T, \frac{3T}{2})$

$(T, 2 + \frac{3T}{2}) \rightarrow \boxed{\begin{array}{l} x = T \\ y = 2 + \frac{3T}{2} \end{array}}$

2) Obtenga los ecuacion cartesian de las siguientes grafica

A) $c(2,0)$ $a=4$ $b=2.5$ $\frac{(x-2)^2}{a^2}+\frac{y^2}{b^2}=1$

$$\frac{(x-2)^2}{4^2}+\frac{y^2}{2.5^2}=1$$

B) $c(-2,-2)$ $a=4$ $b=2.5$ $\frac{(x+2)^2}{2.5^2}+\frac{(y+2)^2}{16}=1$

C) $(-2,0)$ $a=4$ $b=2.5$ $\frac{(x+2)^2}{16}+\frac{y^2}{2.5^2}=1$

D) $c)(2,2)$ $a=2.5$ $b=4$ $\frac{(x-2)^2}{2.5^2}+\frac{(y+2)^2}{16}=1$